Parking

Issue Paper Discussion
City of Rockville, Maryland

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City of Rockville
Zoning Ordinance Revision
Issue Paper

Parking

I. INTRODUCTION

A. Common Parking Issues in a Zoning Ordinance

Parking is a common concern that every community must address. Homeowners and business owners alike want to ensure that they will have a place for themselves to park as well as a place for their visitors. Parking considerations can affect all aspects of community planning, from traffic to housing prices, including pedestrian mobility, building density, the environment, and much more. Space for parking (both on and off-street) is one of the largest land consumers, in urban and suburban areas, which makes the regulation and design of parking a very important issue for a zoning revision. Parking standards create a framework to guide the form, function, and effects of parking on the built environment.

Parking regulations, when taken together, can be used to promote the overarching goal of the City: to promote a more walkable community. A more walkable community, with regard to parking standards, means reducing parking close to each use so that people are encouraged to walk further to their building and to walk between buildings instead of driving. Walkable parking also means allowing shared parking facilities (so people walk to a number of uses at once), promoting alternative modes of transportation (reducing demand for automobile spaces), and creating a more attractive streetscape atmosphere (achieved through regulations found in other sections of the ordinance) to encourage people to walk there.

A zoning code can control any number of things associated with parking. The standards of where, how much, and what parking looks like (size of spaces, landscaping, exit/entrances) are all regulated through a zoning ordinance. Parking regulations require balancing priorities. Parking in a zoning ordinance is often associated with the type of use to be developed on a lot. For instance, a suburban mall will generate more parking needs than a fast-food restaurant. The following are some of the particular considerations of parking that are addressed in the proceeding sections of this paper:

1. Determination of Parking Type – There are a variety of ways to provide parking for a particular land use that may be provided in a zoning ordinance.

2. Quantification of Sufficient Parking Spaces - Parking regulations should provide sufficient parking spaces, so there is no spillover. At the same time, parking regulations should limit excess space so as to not encourage using parking lots as a cut-through road (i.e. driving through without stopping), and to limit congestion and

imperious surfaces. The most common zoning regulations to address these goals include regulating the minimum or maximum number of spaces required, and the distance of the parking facility from the use which it serves.

3. Regulation of Appearance of Parking Lots- There are zoning controls for the size and operation of parking spaces, requirements for landscaping or open space, for surfacing, and screening, as well as other regulations particular to the goals of the regulating community.

B. Parking Regulations in Rockville

Without the minimum parking requirements of Rockville's parking regulations being met, no land may be used or building may be built. While there are individual requirements within certain zones, there are many requirements that must be met for all districts. Particular requirements of parking in Rockville address the general considerations of parking requirements found on page 1, and include the following topics:

1. Types of Parking – There are a number of general regulations with regard to parking requirements in the City. The general type of parking regulations in a zoning ordinance is off-street, "grayfield," parking lots. Off-street parking must be located entirely on the same lot as the use that it serves, unless an automobile parking structure is created off-site that meets the requirements prescribed in the ordinance.

   There are additional regulations in the current ordinance that are classified as general requirements for all types of parking. Parking may never be situated so that vehicles are forced to back out onto the street. Finally, there are general storage considerations of parking. Garages may be included when calculating the required parking spaces, though they may also be used for storage. Other parking lots, however, may *not* be used for storage.

2. Quantity of Parking Spaces – A great number of uses permitted within the zoning ordinance are listed with minimum parking requirements for each. These minimum requirements are based on the square footage, number of employees, or number of dwelling units of the use to be served (see Attachment 1).

3. Appearance of Parking Lots

   a. *Design Standards* – General parking space design requirements are provided including the size of the parking space, designation of spaces, bumper requirements, etc. Each of these regulations is particular to the applicable zone. Driveway and paving specifications are also provided.

   b. *Screening and Landscaping* – Screening is required in all commercial and office zones, as well as some industrial zones. The particulars of these requirements are provided in the ordinance.

Existing zoning for the City of Rockville requires developers to meet parking and loading requirements for all buildings and facilities. The following sections of this paper address some of these considerations in greater depth and provide alternative considerations used in other communities. Although the quantity of spaces required is found in a zoning ordinance, the actual quantity demanded is related to what parking demand is created by the market, an issue obviously controlled outside the zoning ordinance. As a result, a separate section has been provided to address methods to reduce parking demand.

II. TYPES OF PARKING

A. **Parking Types** - There are a number of alternative types of parking surfaces / structures that can be used to meet the parking requirements of a community. A typical zoning ordinance, like Rockville's, usually requires minimum parking requirements to be met by *off-street parking lots*. These alternatives must be specifically permitted in a zoning ordinance.

1. On-Street Parking - On-street parking provides convenient access to adjacent uses. On-street parking is ideal for short-term stays and should be used in association with parking lots or structures to meet long-term parking needs. There are three different types of on-street parking: 1) head-in, 2) angle, and 3) parallel. Both head-in and angle parking can provide for more parking then parallel parking, but both require a considerable amount of right-of-way. In the alternative, parallel parking requires less right-of-way but provides fewer spaces.

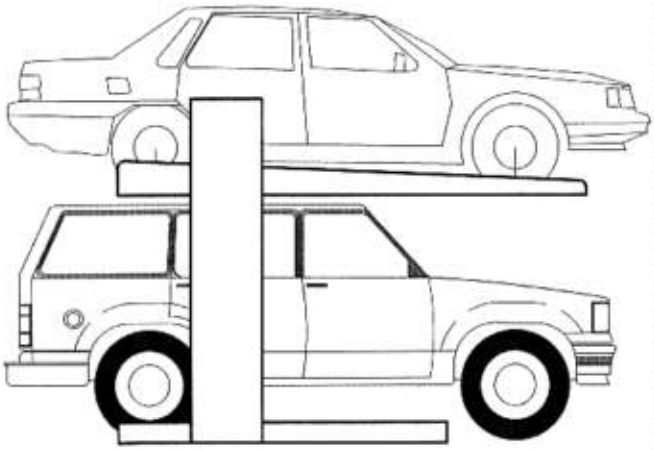
2. "Greyfield" Parking Lots – These parking lots are the most common form of parking requirement. The typical asphalt leveled parking lot can be seen at any number of businesses in the City and across the country.

3. Structured Parking Lots - Structured parking helps to increase density, and can help to create a more walkable community. The construction of parking structures, rather than lots, reduces the amount of land used for parking, which reduces impervious surfaces. Market forces often determine if a lot or structure will be built on a given site. The determination is based on the cost of land against the cost of constructing a parking structure. Without significant financial incentives, it is unlikely that structured parking would be built (see the discussion of parking Economics of Spaces later in this paper).

4. Automated Parking Structures - Theses structures are becoming more popularly used throughout the country because they can accommodate the same number of cars in half the space of a conventional parking structure and can be built on small sites. These structures have been built as small as 60 feet by 60 feet, in structures up to 20 stories high (above and below ground). Automated parking makes parking safer and more convenient, eliminating the risk of car damage, theft, or personal injury, and reduces the water and air pollution attributed to exhaust fumes (since the automobile

doesn't run as long, because it doesn't have to search for a parking space) and impervious surfaces.

In terms of cost, automated parking is becoming a more competitive and viable alternative to traditional ramp garages. One of the drawbacks of automated parking is the need for additional screening. In addition, automatic parking might make parking too efficient, leading to an increase in driving demand. It is an option that the City of Rockville has examined in the past and one which is likely to be requested in the future.



5. Parking Arrangements - Tandem/stacked or valet parking arrangements reduce the amount of land devoted to parking by limiting the need for drive aisles. Most cities require that 50% of the parking spaces have access to a drive aisle and that an attendant to be present when the facility is in use.

B. Economics of Parking Spaces

One issue that must be kept in mind when discussing parking types and quantity is the relative cost of parking. In general, the type of cars is dictated by land costs. Surface parking costs about $2,000 to 3,000 *per space*. Structured parking can cost up 5 to 10 times that much.

In typical suburban areas surface parking has historically been the norm, because the land costs are relatively low. In high-density urban areas, however, structured parking and emerging alternatives like automated parking structures and parking arrangements becomes the norm. A 1,000,000 square foot shopping center would require about 5,000 parking spaces under minimum parking requirements in the zoning ordinance. At about 350 square feet per space (to include drive aisles and landscaping), the surface parking area would require 40 acres of land. On the other hand, a three-level parking garage, at 300 square feet per space, would occupy only 11.5 acres. The surface lot, at $3,000 per space, would cost $15 million, while the parking structure at $25,000 per space would

cost $125 million, a difference of $110 million. If the land value of those additional 28.5 acres is less than what the garage will cost, the surface parking will be normal option. For example, if land costs are $4 million / acre, it is more economical to construct a structure than to use surface parking.

III. QUANTITY OF PARKING SPACES

A. Minimum Parking Space Regulations

Historically, zoning regulations have included *minimum* parking requirements. Minimum parking requirements are the most common form of parking regulation and are often based on the Institute of Transportation Engineers (ITE) standards handbook or other communities' experience. The City of Rockville's regulations have been no exception. Included in the parking article of the zoning ordinance is a list of permitted uses and the minimum number of parking spaces required for each. These uses include homes, offices, schools, banks, restaurants, shopping centers, theaters, and dozens of other land activities ranging from airports to zoos. Minimum parking requirements are normally based on peak demand, which is intended to allow each use to be self-sufficient in parking and prevents spillover to adjacent parking lots or surrounding neighborhoods.

1. Benefit of Minimum Requirements – Minimum parking requirements have been used for many years in zoning. Primarily, these regulations have served commercial uses by ensuring that sufficient parking is provided at their peak use. With sufficient parking, the use of the land for parking is generally free to users.

2. Burden of Minimum Requirements - Often, minimum parking requirements are too excessive for the majority of time, which leads to under-used facilities. Shopping mall parking lots, for instance, have been developed to meet peak holiday parking demands. For the rest of the year, however, the majority of the parking lot stays empty. Minimum parking requirements can also limit a use from expanding, if the use lacks the required parking to do so. It is important that a minimum parking calculation be based on a true representation of the community and the uses that actually generate the parking demand.

B. Maximum Parking Spaces / Areawide Parking Cap

In the alternative to (or in addition to) minimum parking requirements, *maximum* parking regulations or area wide parking caps are applied by some jurisdictions. Increasingly, more cities are revising zoning ordinances to incorporate parking maximums or area wide parking caps, both intended to ensure that there is not an excess supply of parking. While similar in theory, the difference between maximum parking spaces and an area wide cap is the size of the area to be limited.

- **Parking Maximum**: Restricts the total number of spaces that can be constructed at a particular development site (i.e. on a single lot or for a single building or use).

- **Areawide Parking Cap**: Limits the total number of spaces that be constructed in a defined area (which can be on two sites, an entire block, or within a broader area of the City like Town Center).

There are two ways to apply maximum parking requirements. First, maximum parking requirements can complement minimum parking requirements thus ensuring a threshold level of parking supply. In other communities, maximum parking regulations stand alone, leaving individual developers and the market to determine the appropriate amount of parking necessary.

1. Benefit of Maximum Requirements - Many parking regulations result in far more spaces than the use associated with the parking needs. This problem is exacerbated by common practice of setting parking ratios to accommodate the highest hourly parking during the peak season. By determining actual average parking demand instead, a maximum number of parking spaces can be set. Table 1 provides examples of conventional parking requirements and compares them to average parking demand.

TABLE 1 - CONVENTIONAL MINIMUM PARKING RATIOS

Land Use	Parking Requirement		Actual Average Parking Demand
	Typical Parking Ratio	General Range	
Single Family Homes	2 spaces per dwelling unit	1.5-2.5	1.11 spaces per dwelling unit
Shopping Center	5 spaces per 1000sq ft	4.0-6.5	3.97 per 1000sq ft
Convenience Store	3.3 spaces per 1000sq ft	2.0-10.0	--
Industrial	1 space per 1000sq ft	0.5-2.0	1.48 per 1000sq ft
Medical/Dental Office	5.7 spaces per 1000sq ft	4.5-10.0	4.11 per 1000sq ft

Source: "Better Site Design Fact Sheet: Green Parking." http://www.stormwatercenter.net/Assorted%20Fact%20Sheets/Tool4GreenParking

If the amount of urban real estate devoted to parking is increased, activities are pushed farther away from each other, thereby forcing people to drive further for their daily needs. Increased parking becomes a vicious circle, where the more parking is built; the more people have no choice but to drive. Access-by-proximity, the great advantage that belongs to city dwellers, depends on a compact, intimate mingling of people and land uses. Maximum parking requirements provide for smaller parking areas and therefore encourage proximity of uses. A parking space for each person at each destination cannot be provided and simultaneously maintain the access-by-proximity character of a City.

2. Burden of Maximum Requirements - An absolute limit on the amount of parking that can be provided leaves little room for mistakes in the projection of demand. Both parking maximums and area-wide parking caps force businesses to encourage their employees and customers to use alternative modes of transportation. For either parking maximums or area-wide parking caps to be successful, it is imperative to have accessible and frequent public transportation, and a strong real estate market, where location advantages considerably outweigh the perceived drawbacks of a lack of parking. One little noticed factor is that financial institutions that fund

development often have minimum parking requirements that the developers must meet, regardless of the local jurisdictions' standards.

C. Parking Reserves

A more popular replacement to minimum and maximum parking demands is a flexible median. A median sets a requirement for parking in the middle of the minimum and maximum calculations for parking demand. Medians give the developer the right to increase or decrease parking from the median, but the developer must provide documentation to justify the levels of parking that is proposed.

D. **Shared Parking**

Shared parking is parking used jointly among different buildings and/or uses in a designated area. This alternative takes into account minimum and maximum requirements for various uses which will share the parking but consolidates the space used for all parking by using the spaces at different times. Shared parking takes advantage of different peak parking characteristics that vary by time of day, day of week, and/or season of the year. This system allows parking facilities to be used more efficiently. Shared parking takes advantage of the fact that most parking spaces are only used part-time and that many parking facilities have a significant portion of unused spaces. Success in shared parking relies on use patterns that follow predicable daily, weekly, and annual cycles.

To encourage shared parking, language must be provided in the local zoning ordinance that permits parking requirements (especially minimum parking requirements) to be met through shared parking. This regulation can apply to uses located within the same lot, building, and/or off-site within a defined area. Parking facilities located off-site usually have regulations that specify a maximum distance from the structure or use within which the off-site facility must be located. Most commonly, this distance is set at 500 feet, but can range from 300 to 800 feet and is based on what the City considers an acceptable walking distance. If shared parking is allowed on an area-wide basis, not just lot for lot, the off-site parking distance requirements should be set to allow the shared parking facility to serve the use.

1. Benefit of Shared Parking - Since most parking spaces are only used part time, this policy leads to the underuse of many parking facilities. A significant portion of spaces are unused the majority of the time. By allowing for and encouraging shared parking, cities can decrease the total number of spaces required relative to the separately calculated total number of spaces needed for each land use.

2. Burden of Shared Parking - There are several barriers to implementing shared parking. The main barrier being the amount of planning it takes to determine the appropriate number of parking spaces under a shared parking arrangement. Not only must the parking requirements for separate uses be determined, but parking must also

be calculated for different time periods. Some regulations require the parties involved to determine the appropriate amount of parking needed (instead of placing the burden on the City to calculate this number) and must submit analysis showing how the given number was calculated. Because changes in ownership, operations, or use, might alter the parking demand in the future, many ordinances that allow for shared parking require contingency plans to accommodate additional parking that may be needed.

Table 2 shows the typical shared parking percentages for office and retail uses. Table 3 shows the current shared parking requirements in Rockville's Town Center.

TABLE 2 - TYPICAL SHARED PARKING REGULATIONS

Time Period	OFFICE USE			RETAIL USE			Parking Requirement by Time Period
	Minimum Parking Requirement	Percentage of Parking Requirement	Adjusted Parking requirement	Minimum Parking Requirement	Percentage of Parking Requirement	Adjusted Parking requirement	
Weekday Daytime	210	100%	210	500	60%	300	510
Weekday Evening	210	10%	21	500	90%	450	471
Weekend Daytime	210	10%	21	500	100%	500	521
Weekend Evening	210	5%	10.5	500	70%	350	360.5
Nighttime	210	5%	10.5	500	5%	25	35.5

Source: Zimbler, Robin. "Driving Urban Environments: Smart Growth Parking Best Practices." A publication of the Governor's Office of Smart Growth, Maryland.

TABLE 3 – CURRENT ROCKVILLE TOWN CENTER SHARED PARKING REQUIREMENTS (§25-693)					
Use	Weekday		Weekend		Nighttime
	Daytime 6 a.m.-- 6 p.m.	Evening 6 p.m.-- midnight	Daytime 6 a.m.-- 6 p.m.	Evening 6 p.m.-- midnight	Midnight-- 6 a.m.
Office/industrial	100%	10%	10%	5%	5%
General retail	50%	90%	100%	70%	5%
Hotel, motel, inn	70%	100%	70%	100%	70%
Restaurant	50%	100%	100%	100%	10%
Indoor or legitimate, theater, commercial recreational establishment	40%	100%	80%	100%	10%
Clubs*	50%	100%	100%	100%	10%
Residential**	60%	90%	80%	90%	100%
Institutional and public uses	50%	100%	100%	30%	5%
All other uses	100%	100%	100%	100%	100%

*Clubs – community center, museum, civic club, private club, lodge and health and fitness establishment.
**For parking spaces designated exclusively for residential use, 100% of the required parking must be provided.

IV. REDUCTION OF PARKING SPACE DEMAND

Rather than imposing inflexible mandates, the City could incorporate mechanisms to tailor parking requirements to specific development projects. Some factors that may be considered in reducing parking demand and therefore limiting the minimum parking requirements of a zoning code are based on supply (need of extra spaces) or cost (price of providing parking).

Zoning can control the types of uses and the size of the uses, which relates directly to the amount of parking needed. The market, however, actually determines what parking is used. In addition to the zoning methods to reduce the number of minimum parking spaces required, there are market review that can be conducted to determine if the parking needs to be adjusted.

One of the main challenges to limiting parking is overcoming the presumption that the projected variations in parking demand are accurate. Sometimes a project can create *more* parking demand than is expected (for example, a popular restaurant like Cheesecake Factory may demand more parking than an average restaurant).

Often, communities will allow reductions in the minimum parking requirement if the developer has an existing agreement to accommodate the additional spaces off-site though for some particular uses this may cause more of a parking problem. Additional parking can be provided in a land bank or landscape reserves (unpaved areas of the lot where additional cars can park when needed). In other jurisdictions, these banking methods have replaced up to 50% of parking and when not in use and have been used for recreation.

If the parking supply is unable to meet the parking demand there might be spillover into adjacent uses and residential communities. A potential solution to spillover parking is the creation of residential parking permit districts. Frequently, the use of residential streets for commercial parking, or other adjacent uses results in: 1) hazardous traffic conditions; 2) the overburdening of existing streets, roads, and other facilities; 3) air and noise pollution; and 4) the inability of residents of certain areas to obtain adequate parking to their homes. A parking permit district limits on-street parking to residents of an area.

The ability to tailor parking requirements depends on factors of the use, which the parking serves, such as location of the use, the demographics of the people who use the activity, and the pricing of the parking. Some can be controlled by zoning regulations and others require broader City-wide policy.

A. Zoning Controlled Reductions

Zoning controlled reductions mixed use and other development projects that ensure the maximum use of land and require less land for parking (and therefore impervious surfaces). Some of these strategies have been referenced in other white paper discussions, however for purposes of this paper the following discussions highlight the parking aspect of these options.

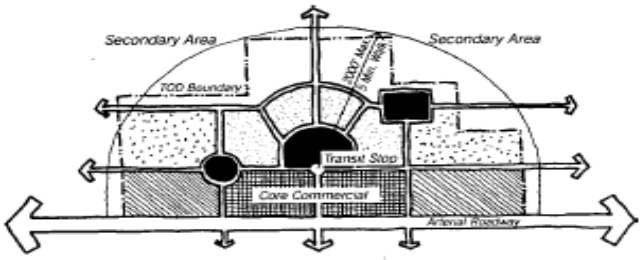
1. Locational Factors - If a project is serviced by mass-transit or if it is located amidst high-density development with a mixture of land uses, it may generate a lower parking demand than similar uses elsewhere, or the uses would be better able to share common parking facilities. Provisions may be included in the zoning ordinance that reduces the minimum parking space requirements within a certain distance from a transit stop.

2. Demographic Factors – Other calculated factors include determining the anticipated users of a project, including employees, customers, and residents, and how they impact parking demand. For instance, low-income and seniors generally have a lower level of car ownership and reduce the parking demand. Provisions can be included in the zoning ordinance that reduces the minimum parking space requirements upon demonstration that the use will generate a reduced parking demand.

3. Fee-in-lieu - Some cities allow the reduction to minimum parking requirements in exchange for developer payment into a municipal parking or traffic mitigation fund. This may be a mandatory or voluntary program. Fees are set either by calculating a

flat rate per space or by carefully determining appropriate development –specific fees on a case-by-case basis. Where there are fee-in-lieu programs, the actual parking on-site required can be decreased or eliminated. Generally, the local jurisdiction will use the funds generated to provide the necessary parking facilities. A fee-in-lieu program can be voluntary or mandatory. Fee-in-lieu programs are setup to improve site design, preserve unique or historic resources and support increased density.

4. Transit-Oriented Development (TOD) - Transportation Oriented Development (TOD) is a particular type of development that focuses on pedestrian options and regulates the land use characteristics conducive to generating non-automotive trips. In Rockville, individual Transit Oriented Areas (TOA) have been identified (in the Comprehensive Transportation Review) as the .7 mile radius surrounding metro stations, and is used to determine where to concentrate density.



1. *Transit-Oriented Urban Design Schematic*. Source: *The Next American Metropolis*.

TOAs encourage the development of denser, mixed-use, pedestrian oriented areas where frequently visited services, jobs, housing, and transit, are all easily accessible, reducing use of the personal automobile and the subsequent need for parking facilities. There are still challenges to both types of development. Parking is one of them. Adequate parking must be provided to support those uses found in the area though determining what the adequate reduction should be for the proximity to transit is a difficult decision. The Urban Design White Paper also discusses the considerations of TOAs.

5. Compact Car Spaces - Compact Car spaces and other reduced parking stall dimensions can reduce impervious surface cover. Many people cite the size of Sport Utility Vehicles (SUV) and large vehicle as being the barrier to reducing parking size, but most ordinances have a stall width requirement that is greater than widest SUV. The idea behind compact car spaces is that by providing desirable parking spaces to smaller cars, fewer larger cars will be used. In addition the use of smaller parking spaces reduces the impervious surface that must be used.

B. Other Policy and/or Other Code Updates

1. Parking Management Districts - Parking Management Districts are areas designated by local jurisdictions within which actual parking needs are considered to reduce requirements. Within these districts, parking supply and rates are regulated to meet the parking needs of the area. Parking districts, and the related ability to reduce parking requirements, promote transit use, ridesharing, and other alternative modes of transportation to the single occupancy vehicle by providing fewer spaces for automobiles.

   There are two key components of a Parking Management District – 1) supply management strategies and 2) pricing policies. These two components are designed to work together to enhance economic development and to encourage a balanced transportation system within the area defined as the district. Supply Management Strategies are established to encourage mixed use and other development projects that ensure the maximum use of land and require less land for parking. Pricing polices complement supply management strategies by influencing travel behavior of individuals and encouraging the use of other modes of transportation. Further explanation and examples of these two policies are provided in the following two sections of this paper.

2. Transportation Demand Management Programs (TDM) - Transportation Demand Management Programs are typically employer-led programs to help encourage transit use and to reduce the parking demand of employees. For instance, the City of Rockville has a TDM program that provides Metropasses to employees that use the Metro to get to work. There are a number of other programs used to reduce parking including the following:

   a. *Cash-Out Programs* – Cash-Out programs provide a subsidy to employees with the choice of receiving free parking or foregoing free parking for an equal sum cash payment to use for other transit alternatives. According to a study by the Victoria Transport Policy Institute, Cash-Out programs reduce parking demand by 15%-25%. The effectiveness of a cash-out program is dependent on the availability of transit and other alternatives to the single-occupancy vehicle. Paying people not to park, however, is not as effective as requiring people to pay for parking.

   b. *Peripheral Parking with Shuttles* - The City or individual community employers may provide peripheral parking located outside the main activity center and may offer shuttle service from those locations to the main core and employment sites. This is a solution that many Colleges and Universities have adopted to provide parking for students. Employers and some businesses (like hotels) do this when transit stations and a given site are not connected by the transit system. Other employers may offer this as a special service for employees.

c. *Preferential Parking for Carpools and Vanpools* - Employers can provide reserved parking spaces (close-in, secure, covered, or otherwise preferable) for high occupancy vehicles. The City of Rockville requires developments to include a percentage of parking for carpool and vanpool vehicles.

d. *Car Sharing* – Car sharing provides people with access to a car when they need it without having to pay the costs associated with owning or operating a car. According to Zipcar, a privately owned car sharing company, each car-sharing vehicle replaces four to eight privately owned cars, thus reducing parking demand. Car sharing is most effective in mixed-use and high-density areas. Some local jurisdictions encourage car sharing by providing a reduction in minimum parking requirements for those who participate in the program.

3. Transit Investments – Transit investments can provide people with a viable alternative to the personal automobile. By doing so, these investments can reduce parking demand. Improvement to the transit system and services can be done to better meet the needs of existing users and to potentially attract new users. Improvements such as expanding existing transit routes and modes, adding new routes to the transit system and creating new modes of transit such as express bus service, light rail, etc reduce parking demand.

4. Pricing Strategies - The way parking is priced can greatly change the demand for parking spaces. Parking fees generally reduce demand by 10-30% compared to free parking. Pricing strategies include time-based fees, vehicle occupancy, and vehicle size pricing.

   a. *Vehicle Occupancy Pricing* - Established in off-street parking facilities to encourage high occupancy vehicles. Individual driver rates may be set higher than carpool rates.
   b. *Vehicle Size* - Established in off-street parking to encourage the use of compact cars, which demand a smaller land area for parking. The market rate can be set higher for larger vehicles that may take up more than one space.
   c. *Parking Tax* - The city can also collect a parking tax on privately-owned parking facilities. The revenue can be used to fund public parking facilities and is collected as a percentage of the gross transactions or a flat rate per user.

V. APPEARANCE OF PARKING LOTS

A. Parking Design

Parking consumes a significant amount of land and resources and is very visible in a community. Today's world is dominated by the automobile; not only on the streets but in the parking lots where cars park. Despite this fact, many communities do not often regulate for the design of automobile facilities in the landscape. No one wants to see

acres of parking or blank walls dominating the streetscape; yet that is what a community will have if there are no regulations to encourage good design.

There are a number of design elements that should be considered when designing parking lots.

- Design sites so vehicles are not the dominant feature;
- Provide necessary parking without large expanses of pavement;
- Minimize runoff and recharge ground water;
- Add to the streetscape and encourage activity; and
- Create a safe environment for pedestrians, bicyclists, and vehicles.

Bicycle parking or storage, showers, and lockers on-site can help encourage employees to bike to work. Maryland law requires communities to provide bicycle facilities if automobile parking is regulated. In addition, regulations can reduce minimum parking requirements if extra bicycle parking is provided.

B. Impervious Surfaces

According to the Center for Watershed Protection, as much as 65% of the total impervious surface cover in American is some surface designed for cars. There are a number of regulatory methods that can be used to minimize the amount of pavement required for a parking facility while allowing the most cars to park on the site.

First, alternative pavers (gravel, cobble, wood mulch, brick, grass pavers, turf blocks, natural stone, pervious concrete, and porous asphalt) could be required. Not all alternative paving materials are ideal for every site, climate, soil-type, and traffic volume; however, these alternatives can be used for overflow areas, and in cross walks and stalls to create a break in the paved area. Secondly, breaking up large parking lots into two or more areas add some pervious surface and help reduce stormwater runoff.

An alternative method to reduce impervious surface is to not require complete paving of a parking surface. While the land necessary to meet the parking space requirements should be provided on a lot, only a set percentage of that lot should be paved in order to reduce the amount of impervious surface in the City. When the need arises for all the parking spaces to be created, then the entire parking lot may be paved.

C. Screening & Landscaping

The key to good parking regulations is to provide the necessary parking spaces, without overly compromising urban design. Buildings and topography can help to conceal parking lots and garages. Parking facilities in front of buildings create physical and psychological barriers to the building. In the alternative, buildings placed close to the street that frame the public space invite people in. Regulations can be included to require that parking be located behind buildings, in the interior of blocks, and otherwise be concealed.

When a parking lot abuts a street, cars should be screened from the street. Screening can be regulated in a zoning ordinance by requiring continuous landscaping, attractive fencing, stone walls, or any number of other opaque / semi-opaque material. Expanses of parking broken up with landscaped islands and planted strips, which include shade trees and shrubs provides a more amenable atmosphere. Such landscaping can also help to reduce the increased heat that can be felt on the parking lot asphalt in the summer (called the "urban heat island effect").

Architectural treatment regulations can also be required to integrate parking structures into their surroundings. Regulations of this nature would provide methods to keep parking structures in the same scale, style, and character of development as the surrounding environment requires. Façades and landscaping should reduce prominence of the structure as well as hold the interest of someone walking by.

VI. RECOMMENDATIONS

The following recommendations of staff can be classified based on the type of land use associated with the parking.

A. General Comments

1. Use Parking regulations to make Rockville a more walkable community. One of the overarching goals of the City is to promote walkability. A more walkable community, with regard to parking standards means allowing shared parking facilities, promoting alternative modes of transportation, and creating a more attractive streetscape atmosphere to encourage people to walk to their destinations. The following recommendations are presented to achieve that goal.

2. Reduce the amount of space dedicated to what are called greyfields (flat asphalt covered parking lots), in the mixed-use areas proposed for the zoning revision. The methods of addressing this goal are provided below and include reducing the size of spaces, encouraging shared parking, regulating garage design, etc.

3. Maintain current parking standards for residential and industrial districts. Like the Land Use White Paper recommendations, the regulations in these districts will be greatly altered in the zoning revision. That includes the parking standards.

B. Parking Type

1. Maintain general considerations for off-street parking presented in part one of this paper. For example, the requirement that all off-street parking be located on the site, unless a separate provision allows for the use of a multi-use garage. Additionally, parking should not be oriented requiring that vehicles back out onto the street. Shared parking regulations will be maintained and expanded where applicable.

Handicapped parking standards (size/location) will remain the same in compliance with Federal requirements.

2. Provide regulations for automated structures. Additional provisions should be included in the zoning ordinance to provide for automated structured parking where applicable. In particular locations, screening and landscaping regulations will be included for this type of parking structure. This is an increasingly popular type of parking alternative in the country. If future applications will be submitted for these structures, Rockville should have regulations in place to address their design.

3. Additional regulations will be included in the ordinance to provide more design guidance for garages. Shared parking garages should be designed for safety so that they will continue to be used. Parking garage guidelines should, therefore, include recommendations that they be designed in 1) an open manner 2) with sufficient lighting and with 3) visible stairwells. Currently, the only provisions for garages are turning radii and other technical requirements. Regulations should also ensure that garages promote a feeling of safety to ensure that they will be used.

C. **Quantity of Parking Spaces**

1. Include minimum parking standards for each type of use in the mixed use districts as are currently provided in the zoning ordinance. The numbers of parking spaces should be reviewed to determine if the requirement is adequate for the use.

2. Include a maximum parking cap. Considerations in the zoning ordinance revision for this policy will be whether to apply the maximum parking requirement to each use individually, each shared facility, or within a particular area.

3. Increase shared parking abilities in mixed-use districts. – The overarching goal of parking regulations in mixed-use areas will be to encourage shared parking. Regulations for shared parking will continue to be included, though the particulars of the regulations will be reviewed to determine the applicability to any new uses proposed in the use table. Further study will be needed to determine the size of the area within which to encourage the sharing of facilities. To do so, the 500 feet off-site parking limitation (§25-390(b), §25-391(c)) should be reviewed and potentially increased to encourage more walkability.

D. Reduction of Parking Space Demand

1. Continue to provide flexibility in parking standards in areas of the City where transportation alternatives reduce the actual need for parking spaces. – Currently, in the O-1 Zone, the required parking may currently be reduced by up to 15% upon a finding by the Planning Commission of set standards (§ 25-389(e)). Regulations that accomplish the same goal should be considered in the revision. In the alternative, the standards could be reduced across the board. Provisions of flexibility will be based

on the list of factors provided in part IV of this paper to reduce minimum parking requirements, namely: locational and demographic factors and fee-in-lieu alternatives.

2. Provide parking space reduction as an amenity in the amenity development option. The City of Rockville has suggested this alternative development option in the Optional Method White Paper. To entice developers to reduce parking or to provide a fee in lieu which will support a municipal parking or traffic mitigation fund, parking may be added as an amenity to the ADO. Most businesses rely on having ample parking to support a large customer base. The fear is with no parking on site, customers will go elsewhere. It is the City's desire to reduce impervious surfaces, and so the reduction of minimum parking space requirement must be considered an amenity (benefit to the City) and not a development adjustment (benefit to the developer).

E. Appearance of Parking Lots

1. Decrease the required size of parking spaces. – At the least, staff encourages reducing the size requirement to that used in the County (8 ½'X18') instead of the current City size (9' X 18').

2. Include regulations requiring bike parking spaces in mixed-use and multi-family districts. The standards to be included will be based on the requirements currently used by the Department of Public Works – 1 bicycle space for every 50-car parking spaces. Lockers will be required for residential units and racks will be required for retail uses. This method is required by Maryland law.

3. Do not require the entire parking lot to be paved. As stated in (D)(2), above, the concern of most businesses is to have ample parking on site. To reduce impervious surfaces, however, the City may consider providing incentives to businesses to not pave over the entire parking surface until demand is demonstrated for 100% of the spaces required under zoning regulations. Although 100% of the land for parking should be provided, under this amenity, only a portion (for example 85%) of the lot must be initially paved.

4. Increase landscaping / screening requirements for parking lots. – Currently, the City of Rockville requires only two and one-half (2 ½) square feet per parking space for a parking lot of forty (40) spaces or more to be green (§25-417). This creates a ratio of approximately .7% of the entire parking surface must be landscaped. Staff recommends increasing the landscaping requirements of parking lots to the standard of 5% or higher of the entire parking surface. Staff also recommends reducing the minimum number of spaces required between landscaping features. Currently, the code requires a landscaping feature to be located every 150 spaces (§25-411 (f)). The forestry department recommends that in parking lots exceeding 40 spaces a minimum

of one tree for every 30 linear feet of parking space should be required on a minimum of 8' wide tree lawns in between rows of cars.

One goal of the parking regulation review in mixed-use districts will be to hide parking from visible sides of the structure, to the greatest extent possible. As a result, the requirements of greenspace, fencing, and opacity should be reviewed. This may vary based on the type of land uses associated with the parking requirement (and explained below). For instance, Stonestreet is considering an opacity requirement of 75%, where other areas of the City may require less opacity. Much of the buffering requirements will be regulated as proposed in the individual area plans. The Town Center and Twinbrook Metro Performance District, for instance, generally recommend placing parking structures behind buildings, allowing on-street parking, and otherwise screening parking lots.

VII. CONCLUSION

Parking is a zoning issue that affects all forms of land uses. In the City of Rockville, parking has followed traditional patterns of development, with wide-open parking lots that may exceed actual use needs. The parking patterns evident throughout the City (and prevalent throughout the country) often discourage walkability and instead, increase reliance on cars to travel between nearby places.

Not only does parking affect the amount of stormwater runoff from impervious surfaces (to be discussed in the Green Regulations paper), but it also affects the overall character of the community. A great majority of land in America is dedicated to the car. Parking lots can be blank open spaces of asphalt; or zoning regulations can regulate to make them less of an "eyesore" by limiting their size, hiding their appearance through landscaping or building buffers, or adding other regulations which can require their beautification (such as interior landscaping and garage design requirements).

Parking regulations often require the development associated with the parking to provide the maximum parking requirements for peak demand. Peak demand, however, is only used a small fraction of the year for most uses. Most parking, therefore, remains unused for the majority of time. Flexible standards, as an alternative to traditional parking standards can help to reduce unused space in growing areas such as Rockville. Staff has recommended the use of many of these flexible standards to change the character of the City and provide more walkability options.

VIII. ATTACHMENTS

1. Rockville Zoning Ordinance Parking Standards Article IX, §§25-386 thru 430.
2. Millard-Ball, Adam, "Putting on Their Parking Caps: Cities around the Nation Are Saying They Want Less Parking Not More," APA, April 2002.